

Remarks/Arguments

This amendment is responsive to the non-final Office Action mailed March 2, 2010. Claims 1-7 are pending in the application, of which claims 4-7 are withdrawn. Independent claim 1 has been amended, claim 2 was canceled, and dependent claim 2 was amended to change the dependency. No new matter has been added. Claim 1 is the only independent claim. Reconsideration in view of the amendments to the claims and remarks below is requested.

Claim Rejections under 35 U.S.C. §102

The Examiner rejected Claims 1-3 under 35 U.S.C. §102 (b) as being anticipated by Taufig. Applicant submits that the present invention differs from Taufig in substantial ways and these differences are further manifested in the amended claims. Taufig provides a different solution and solves a different problem than applicant does in this claimed invention. This is due to the difference in the way the fluid jet is formed. Applicant teaches an improved device for gently, but effectively removing tissue cells from a biological body using only small suction forces. When discussing the prior art, Applicant makes clear that the present invention is designed to generate only a very small separation force and with a very small suction force. Applicant has found that the design of the present invention is capable of delivering such small separation force and, thus, the device is gentler on the human body during a surgical procedure. The procedure causes less damage to the tissue cells, even the fatty tissue cells, and thus, the removed tissue cells can be reused for other purposes. Applicant provides an injection nozzle which operates with very small separation forces, the surgeon does no longer work with a just an undefined fluid jet as the one disclosed by Taufig's "funnels-shaped acceleration nozzle 25" having a "slit 20" that forms a rather such undefined "fluid fan 21". Instead, Applicant provides a device having a co-axial (with the annular suction channel) injection cannula. This co-axial injection cannula terminates in

conical injection nozzle having a nozzle slit which provides a defined flat fluid jet 9 having a separation edge 11, a forward separation tip 10 and a second separation edge 12. Such nozzle tip is initially entered into the space between the tissue cells followed by the inclined separation edges, so that the tissue sections to be separated are no longer needs to be otherwise loosened (for example by a beating motion), but are instead cut off along the separation edge. This cutting process encounters a very low resistance, so that the cutting or separation force can be kept small. The required cutting force can be selected by selecting the angle α , i.e., the cutting angle of the separation edge (see specification [00011]. These differences of the generated fluid jet are not trivial, but make a rather important difference to the patient.

Applicant states in the specification in paragraph [00012] that the required suction force is kept very small, because the separation edge is generally disposed before the suction openings and because the separation forces are oriented in the flow direction, i.e., away from the suction openings. All tissue parts that are exposed to the separation forces also tend to move away from the suction openings. Before the tissue parts that move away can be suctioned off, they must first be slowed down, their direction must be reversed, and they must be accelerated again. As a result, the suction force has to overcome both the separation forces and the inertia of the tissue parts, which represents a complex movement inside the human body. Because Applicant's device requires a smaller separation force due to its novel characteristic of the flat fluid jet with defined separation edges and forward separation tip, the recovery (retrieval) process of the tissue parts also requires a smaller force.

Thus, the carefully separated tissue cells together with the fluid are suctioned off by a relatively small suction force and are discharged, or alternatively, are separated again from the fluid and are reusable. This type of surgical devices results advantageously in the separation of the fatty tissue cells solely by applying the force of the separation jet. Thus, the fatty tissue cells are suctioned off together with the fluid by the force of the suction flow. Unlike the prior art devices, the separation force and the suction force need not be matched and can be selected independent of each other, with the respective forces adjusted to provide the least harmful treatment for the patient. Further, unlike prior art devices, which produce a fluid intermixed with blood, the novel surgical tissue removal device produces a milky, white suction flow dominated by fatty tissue cells.

Specifically, Taufig's design provides a rather undefined fan-shaped working fluid exit, having no defined separation edge or forward separation tip, as applicant provides with his design. Taufig's fluid fan works on "larger volume of subcutaneous fatty tissue" in a "speedy manner". Applicant's angle (α) is a completely different angle (α) than the angle (α) of Taufig. The angle (α) of Taufig (see Figure 2) shows the distance between the longitudinal axis 23 and the injection opening 20. This means the injection opening 20 (nozzle slit) has a complete different orientation. The fluid fan 21 is "curved in a funnel-like manner exits" (see page 2, paragraph [0023] from Taufig). In contrast, in Applicant's invention, the fluid fan forms a peeling surface 13 with separation edges 11 and 12 and defining a separation tip 10 (see Figure 1). Accordingly, applicant's amended claim 1 defines a different invention and accordingly, the claim is not anticipated by Taufig. Thus, the rejection should be withdrawn.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If entry and consideration of the amendments above requires an extension of time, Applicants respectfully request that this be considered a petition therefor. The Assistant Commissioner is authorized to charge any fee(s) due in this connection to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess, to Deposit Account No. 14-1263.

Respectfully submitted,
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